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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,490	07/11/2003	Perry Scott Lorenz	50019.230US01/PO5583	5411
23552	7590	09/09/2004	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			YOUNG, BRIAN K	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/618,490

Applicant(s)

LORENZ, PERRY SCOTT

Examiner

Brian Young

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 and 19 is/are allowed.
- 6) ☒ Claim(s) 1-3, 11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 4-10, 12, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-3, 11 and 13-15 are rejected under 35 U.S.C. 102(a) as being anticipated by Poucher.

Poucher discloses an integrated circuit chip, used as an electronic thermostat, including a temperature sensor for providing a signal corresponding to ambient temperature. A digital counter contains a value, which, after digital-to-analog conversion by a DAC, corresponds to a desired trip temperature. A comparator has an output which changes state when the magnitude of the sensor signal exceeds the output of the DAC.

Maintaining the sensor at a desired trip temperature and incrementing the counter until the comparator changes state sets the value in the counter. FIG. 2, comprises a temperature sensor 21, a digital-to-analog converter (DAC) 22, an analog comparator 23, control logic 24, a current source 25, a digital counter 26, a non-volatile digital trip register 27, a flag P, first and second hysteresis resistors 29 and 30, an input/output pin 31, and a pair of ganged changeover switches 32 and 34, all connected as shown in the drawing.

The current source 25 is connected via the switch 32 to the "reference" connection 33 of the DAC, the "ground" connection 35 of the DAC being connected to a ground point by the switch 34. When the switch contacts of the ganged changeover switches 32/34 are in their lower position, as seen in FIG. 2, the **resistor** 29 in the reference circuit is connected in series between the current source 25 and the reference connection 33, and the ground connection is directly connected to ground. However, when the switch

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contacts are in their upper position, the **resistor** 30 in the ground circuit is connected in series between the ground connection 35 and ground, and the current source is directly connected to the reference connection 33. This allows the reference input voltage to the DAC to be varied and, accordingly, the level of the reconstructed analog signal for a given digital input signal.

The current source 25 ensures that the DAC output is not sensitive to power supply variation and allows for a wide power supply operating range. The DAC output will vary with temperature due to changes in the resistance values of the DAC internal resistors; however, since these changes are effectively taken account of in the trip temperature register 27 at the time the trip temperature is programmed, this DAC output change with temperature is not a source of error. These changes in the DAC output due to DAC **resistor** changes with temperature will not increase the error of the circuit provided that the temperature coefficient of the DAC resistors is of opposite sign to the temperature coefficient of the temperature sensor, or that the effect of temperature on the output of the DAC is not significant compared to the effect of temperature on the output of the temperature sensor.

3. Claims 4-10,12,16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

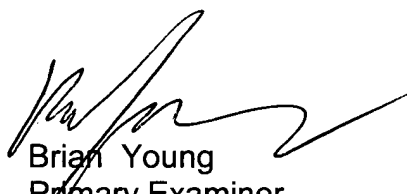
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4. Claims 18 and 19 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Young whose telephone number is 571-272-1816. The examiner can normally be reached on Mon-Fri 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian Young  
Primary Examiner  
Art Unit 2819

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